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CLAIMS

1. A plasticizer material suitable for a DNT-free single base propellant formulation containing an amount of material selected from citrate and adipate compounds.

5 2. The plasticizer of claim 1 wherein said citrate is selected from the group consisting of acetyltriethyl citrate and acetyltri-n-butyl citrate and mixtures thereof.

3. The plasticizer of claim 1 wherein said adipate is diisobutyl adipate (DIBA).

10 4. A DNT-free, single base propellant containing an amount of a plasticizer selected from the group consisting of citrates and adipates.

5. The propellant of claim 4 wherein said citrate is selected from the group consisting of acetyltriethyl
15 citrate and acetyltri-n-butyl citrate and mixtures thereof.

6. The propellant of claim 4 wherein said adipate is diisobutyl adipate (DIBA).

7. A DNT-free, single base propellant comprising:

(a) from about 93 to about 97% nitrocellulose (NC);

20 (b) from about 2-5% of a plasticizer selected from the group consisting of citrates and adipates; and

(c) about 2% dibutylphthalate (DBP).

8. The propellant of claim 7 wherein said citrate is
25 selected from the group consisting of acetyltriethyl citrate and acetyltri-n-butyl citrate and mixtures thereof.

9. The propellant of claim 8 wherein said adipate is diisobutyl adipate (DIBA).

10. A DNT and DBP-free, single base propellant
30 comprising:

(a) from about 88% to about 90% nitrocellulose (NC);

(b) from about 4% to about 10% citrate plasticizer;

11. The propellant of claim 10 further carrying about 1% ethyl centralite (EC).

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12. The propellant of claim 11 further comprising from 0 to 1% of K₂SO₄ or KNO₃.. 3. The propellant of claim 10 further comprising from 0% to about 1 % of KNO₃ or K₂SO₄.

5 14. A plasticizer composition suitable for a DNT and DBP-free, single base propellant composition containing an amount of citrate comprising acetyltriethyl citrate (ATEC).

15. The plasticizer of claim 14 further comprising an amount of ethyl centralite.

10 16. The plasticizer of claim 10 wherein the citrate is ATEC.

17. The propellant of claim 4 wherein said plasticiser is present in an amount from about 2% to about 10%.